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Planning the new city to the west of Lisbon.

**Crossing urban and transport expertise in the project of the coastal road (1931-
1948)**

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Abstract

The construction of the coastal road from Lisbon to Cascais, promoted by the public works program of the Portuguese nationalistic Centennial Commemorations (1940), was one of the “old aspirations of the capital of the Empire”: it structured urban sprawl in the area to the west of Lisbon, as part of urban planning of Lisbon and its neighbouring regions; it materialized an agenda for the promotion of tourism, the “great facade of nationality,” and finally, it contributed to the propaganda of the work of the Estado Novo (New State) dictatorship and its makers. This chapter follows how the expertise of foreign urban planners inspired by the garden-city model and of Portuguese road engineers influenced by the recent European motorways (built in Fascist Italy and Nazi Germany) were brought together and interchanged to plan the “new Lisbon” designed along the axis of the river mouth of Tagus and to foster new (auto)mobilities. The implantation of this road in the riverside area, starting in Belém, one of the most emblematic spaces of the nationality celebrations and of the empire reinforced the imperial mystique of the dictatorship, by materializing the “work of historical continuity of the Estado Novo” that the Centennial Commemorations intended to celebrate.

Keywords: Portuguese New State; Lisbon; road engineers; architects-urbanists; tourism roads; urban planning; garden city; mobility justice.

Introduction

This chapter builds on the historiography that considers that infrastructures such as roads, as technological artefacts, need to be interpreted culturally.¹ The example given by Langdon Winner on New York's parkways planned by Robert Moses, which supposedly excluded by design "poor people and black" from accessing the richer Long Inland area, although controversial remains a classical text to assert that "artefacts have politics," i.e., that artefacts "can embody specific forms of power and authority."² The case presented in this chapter focuses on the construction of a tourism road – the Lisbon-Cascais coastal road – and the changes in Lisbon's urban planning in the 1930s and 1940s, and how both were connected. It privileges the study of the relation between artefacts and politics, namely the analysis of values inscribed in artefacts³ (material characteristics and limitations, regulation, and embedded envisioned uses), and the relationship between technical and political actors, notably between their expertise and the regime's agenda.

The recently institutionalised Portuguese Estado Novo (New State) right wing dictatorship (1933-1974) aimed at bringing about the "regeneration" of the nation by promoting a new social and political order (state corporatism, single party, censorship and repression), a new nationalism that reinforced its imperial vocation, and a "new man" (for a "New State"), based on the imagined virtues of the catholic rural families and poor people's lifestyles.⁴ Besides "moral," this "regeneration" of the nation had also a material dimension. In spite the regime's strong ruralist rhetoric against urbanization, mechanization of agriculture, and industry in general, there were important investments in urban planning, public works and industrial policies in Portugal during the period of

¹ Thomas Zeller, *Driving Germany: The Landscape of the German Autobahn, 1930-1970* (New York/Oxford: Berghahn Books, 2007), 239, 240.

² Langdon Winner, "Do artifacts have politics?," *Daedalus* 109, 1 (1980): 121-136, quotations from 121, 24. For a discussion on the controversy raised by this article see, for instance, Steve Woolgar and Geoff Cooper, "Do Artefacts Have Ambivalence? Moses' Bridges, Winner's Bridges and Other Urban Legends in S&TS," *Social Studies of Science* 29, 3 (1999): 433-449.

³ Susan Leigh Star, "The Ethnography of Infrastructure," *American Behavioral Scientist* 43, 3 (1999): 377-391, 388, 389.

⁴ Fernando Rosas, "O salazarismo e o homem novo: ensaio sobre o Estado Novo e a questão do totalitarismo," *Análise Social* 35, 157 (2001): 1031-1054.

consolidation of New State's regime in the 1930s.⁵ This was epitomised in the Centennial Commemorations (1940), announced by the president of the Council of Ministers, António de Oliveira Salazar in 1938, aiming at showing the regime's "work on moral and material renewal and resurgence," and "(...) to make public and private services accelerate the pace of their activity, aiming to affirm the fulfilling capacity of Portugal."⁶ To achieve this "fulfilling capacity," events like exhibitions, conferences and processions were planned, as well as a program of public works, focusing mostly in the two main cities of mainland Portugal, Lisbon and Oporto, and its surroundings, and which included tourism roads, and other works that were more broadly framed in the new urban plans.⁷

These works were launched by the Ministry of Public Works and Communications (created in 1932), headed by the minister Duarte Pacheco, an electrical engineer who supported the regime's agenda and makings. In a speech given in one of the 1940's Centennial Commemorations' events, Pacheco emphasised the "heroic efforts of our people through its eight centuries of history," and the "fulfilling capacity, patriotic and Christian spirit of the generation of the 1940s," which was a "symbol of historical continuity of New State's – underpinned by Salazar's knowledge and fervent patriotism."⁸ He was adamant that these nationality commemorations held the unanimous and enthusiastic applause of all Portuguese, and that all its makers – artists, technicians, and workers – should be glorified.

This chapter focuses on two groups of these expert "makers," who contributed to the regime's agenda and propaganda through their technical expertise regarding roads and urban planning, particularly in the making of a new Lisbon and the coastal road Lisbon-Cascais: road engineers from the Junta Autónoma de Estradas (JAE) (Portuguese Autonomous Board of Roads) and two architect-urbanists, who were members of the Société Française des Urbanistes (French Urbanists Society).

The values inscribed in the design of this road and its relation to the urban planning of Lisbon reveal its political purposes, which served both the regime and the technicians who worked in it. Furthermore, they created a road with improved technical

⁵ Fernando Rosas, *O Estado Novo nos anos trinta: elementos para o estudo da natureza económica e social do Salazarismo (1928-1938)* (Lisboa: Editorial Estampa, 1986), 152-155.

⁶ "Oito Séculos de Nacionalidade. A Fundação de Portugal e a Restauração da Independência serão comemoradas com o maior relevo em 1939 e 1940," *Diário de Lisboa*, 27 March 1938.

⁷ Decreto-lei nº 28797, in *Diário do Governo*, Ministério das Obras Públicas e Comunicações (MOPC) (1938): 1044, 1045.

⁸ Duarte Pacheco, "Sessão solene de encerramento da Exposição do Mundo Português," *Revista dos Centenários* 24(1940): 21.

characteristics, hitherto non-existent in the country, which were behind the promotion of elitist automobile tourism (with scenic views created especially for that purpose).⁹ Additionally, the values inscribed also paved the way to a future dominance of automobility over other forms of mobility in commuting movements, ultimately leading to mobility injustices at the urban and the environmental levels.¹⁰ Both the road engineers and the architects-urbanists embraced the car in their conception of mobility infrastructures (including the “new city” to the west) as part as their normative visions for Lisbon and its extensions. Mobility infrastructures, as other infrastructure networks “have traditionally (...) tended to be central to the normative aspirations of planners, reformers, modernisers and social activists to define their notions of a desirable urban order: the good city.”¹¹

Using archival material from the JAE and the Municipality of Lisbon, as well as other coeval sources such as governmental and technical reports, legislation and plans, and journals’ and newspapers’ articles, this chapter shows how road engineers acted also as urban planners while making the coastal road to the West of Lisbon, and how architect-urbanists projected new mobilities for Lisbon and its surroundings. These two types of expertise crossed and converged to create a new Lisbon for the New State.

Road engineers as urban planners. Urbanization in the west of Lisbon and the construction of the coastal road Lisbon-Cascais

Engineers and the Autonomous Board of Roads

The implementation of the material improvements framed by the New State’s “regeneration” was intimately linked to the professional affirmation of engineers, who sought to make their work relevant to Salazar’s political agenda.¹² With the State as the

⁹ On the exceptional characteristics of the investment and the construction process of this road see Sousa, “Roads for the 1940 Portuguese Nationality Commemorations ”; Sousa, *A mobilidade*, chapter 8.

¹⁰ In the 1980s the modal split for commuting travels between the area covered by the coastal road and Lisbon was almost equally divided between private (automobiles) and collective transport. In the 1990s, automobility became increasingly dominant. Margarida Pereira, “O processo de decisão na política urbana: o exemplo da Costa do Sol” (Ph.D. dissertation, Universidade Nova Lisboa, Faculdade de Ciências Sociais e Humanas, 1994), 75, anexos AI-5, AI-6 and AI-7. On mobility justice see Mimi Sheller, *Mobility Justice. The Politics of Movement in an Age of Extremes* (London; Brooklyn, NY: Verso, 2018).

¹¹ Stephen Graham and Simon Marvin, *Splintering urbanism: networked infrastructures technological mobilities and the urban condition* (London; New York: Routledge, 2001), 12.

¹² Tiago Saraiva, “Laboratories and Landscapes: the Fascist New State and the Colonization of Portugal and Mozambique,” *HoST - Journal of History of Science and Technology* 3(2009): 35-61; Maria Paula Diogo and Ana Cardoso de Matos. “Going Public: The First Portuguese National Engineering Meeting and the Popularization of the Image of the Engineer as an Artisan of Progress (Portugal, 1931),” *Engineering Studies* 4, 3 (2012): 185-204. This professional affirmation was present since the nineteenth

main employer, the engineers contributed to carrying out this agenda, especially through their planning and execution capacity, which proved decisive for the work of the regime in the 1930s and 1940s, both in the public works program, as in the National Commemorations of 1940.¹³ The engineers benefited from the substantial investment in public works in the 1930s and 1940s, namely in road and harbour works, which, in its turn, contributed to legitimising the regime and its propaganda:¹⁴ both the regime and the engineers benefited from the “resources for one another.”¹⁵ The work of roads’ improvement was carried out by the Autonomous Board of Roads (JAE), which was created in 1927, during the Military Dictatorship (1926-1932) that preceded New State, inheriting the structure and regulation from a previous institution.¹⁶ Initially created as a temporary body for the improvement of mobility conditions in infrastructures for motor vehicles, the JAE was not only institutionalized with New State, but also became one of the most important organs of its Ministry of Public Works, working on the elaboration and execution of the regime’s road policy. It contributed towards a better administrative overview and management of the territory and reinforced it, by building materialities and representations of order and hierarchy.¹⁷ A discourse on material achievements, of

century and continued in the twentieth century. Maria Paula Pires dos Santos Diogo, "A construção de uma identidade profissional: a Associação dos Engenheiros Cívicos Portugueses, 1869-1937" (Ph.D. dissertation, Faculdade de Ciências e Tecnologia da Universidade Nova de Lisboa, 1994), 278-94; Jorge Borges de Macedo, "A problemática tecnológica no processo da continuidade República-Ditadura Militar-Estado Novo," *Economia III*, 3 (1979): 427-453, 451; Marta Macedo, *Projectar e Construir a Nação. Engenheiros, ciência e território em Portugal no século XIX* (Lisboa: Imprensa de Ciências Sociais, 2012); Maria de Lurdes Rodrigues, *Os Engenheiros em Portugal: Profissionalização e Protagonismo* (Oeiras: Celta Editora, 1999), 92-95.

¹³ Nuno Luís Madureira, *A Economia dos Interesses. Portugal entre as Guerras* (Lisboa: Livros Horizonte, 2002), 109-16; Diogo, "A construção de uma identidade profissional," 149, 50, 63, 76-78, 218-21, 32, 68-70; Rodrigues, *Os Engenheiros em Portugal*, 96, 97.

¹⁴ João Fagundes, "Obras Públicas - a grande fachada do 'Estado Novo'," in *História de Portugal - dos tempos pré-históricos aos nossos dias. Estado Novo: o ditador e a ditadura*, ed. João Medina (Alfragide: Ediclube, 1998), 365-385, 365. Rosas, *O Estado Novo*, 202, 258. Cláudia Ninhos and M. Luísa Sousa, "The nationalization of the Portuguese landscape: Landscape architecture, road engineering and the making of the *Estado Novo* dictatorship," in *Closing the Door on Globalization: Internationalism, Nationalism, Culture and Science in the Nineteenth and Twentieth Centuries*, ed. Cláudia Ninhos and Fernando Clara (Abingdon, New York: Routledge, 2017), 107-143.

¹⁵ Mitchell Ash, "Science and politics as resources for one another: rethinking a relational history" (paper presented at the ESHS in-between meeting. Rethinking the history of the sciences in Europe, Faculdade de Ciências da Universidade de Lisboa, 2019). This idea was already developed in M. Luísa Sousa, "Roads for the 1940 Portuguese Nationality Commemorations: Modernising by excess in a context of scarcity," *The Journal of Transport History* 37, 2 (2016): 175-193. See also Tiago Saraiva, "The Fascistization of Science," *HoST - Journal of History of Science and Technology* 3 (2009): 9-13.

¹⁶ M. Luísa Sousa, *A mobilidade automóvel em Portugal, 1920-1950* (Lisboa: Chiado Editora, 2016). 272-96.

¹⁷ Sousa, *A mobilidade*, chapter 6; Sérgio Palma Brito, *Notas sobre a evolução do viajar e a formação do turismo*, vol. I (Lisboa: Medialivros, 2003), 579; Amélia Aguiar Andrade, "Sobre a construção da imagem contemporânea de estrada," in *Momentos de Inovação e Engenharia em Portugal no Século XX*.

order and of “resurgence” was built around the JAE, closely mimicking the discourse of the regime and its support groups and institutions.

The case of the construction of the coastal road between Lisbon and Cascais shows yet other attributes of JAE’s road engineers: it served both to the development and appropriation of knowledge regarding road engineering in Portugal (namely by testing new materials and construction techniques, following, for instance, the experience in road construction in Nazi Germany¹⁸) and also to extend their expertise to urbanism. This road had multiple (political) purposes, which were carried out by the JAE engineers: technical and political propaganda, promotion of automobile elitist tourism, and outline of urbanization growth to the region west of Lisbon.¹⁹

One of the authors of the coastal road Lisbon-Cascais’ preliminary project, who later became supervisor of its construction, the JAE’s engineer Paulo Marques stated in the Bulletin of the Association of Engineers the symbolic importance of the coastal road, as an achievement of both the engineers and the regime, following the tone of the discourse that emphasised the material “regeneration” promoted by New State:

The superior tact of His Excellency the President, the wise, prudent and persistent governance of His Excellency the President of the Council [Salazar], the clear vision, interest and dynamism of the Minister of Public Works and Communications [Pacheco], the organization and activity of the Autonomous Board of Roads [JAE], the working qualities and adaptation by all who took part in the study and execution of the works, including engineers, architects, contractors and workers, were the base elements on which it was possible to consolidate the work described. Apart from its direct economic purpose, this work represents a proof of how much it is worth the union, discipline, organization and fulfilling capacities of the Portuguese.

Their result enables one to trust in the future of Portugal.²⁰

The coastal road was at times portrayed in official reports and exhibitions as a showcase of JAE’s and the regime’s work. It happened, for instance, in 1948, during the Public Works Exhibition that celebrated the fifteen years of the Ministry of Public Works and Communications, which was held in Lisbon, in one of the most important Portuguese

Grandes Temas, ed. Manuel Heitor, José Maria Brandão de Brito, and Maria Fernanda Rollo (Alfragide: Dom Quixote, 2004), 409-423.

¹⁸ Ninhos and Sousa, "The nationalization."

¹⁹ Sousa, "Roads for the 1940 Portuguese Nationality Commemorations."

²⁰ Paulo Marques, "A estrada marginal e a auto-estrada: elementos fundamentais da rede da Costa do Sol," *Boletim da Ordem dos Engenheiros* 48(1940): 507-542, 542.

engineering schools, Instituto Superior Técnico (Technical Superior Institute), lasted five months and was visited by around half a million people. In this Exhibition JAE's work was presented as a material indicator of the "national progress achieved during the period of the New State."²¹

The coastal Lisbon-Cascais road as a tourism road

The coastal road was designed as a tourism road from the very beginning. In fact, tourism policy became instrumental to the regime's propaganda, and notably to the idea of "national renaissance," or country's renovation, as the "great façade of nationality," according to the director of the Secretariat of National Propaganda, António Ferro.²² In the 1930s, tourism started to be considered as a new important parcel for the economic balance of the country.²³ The New State's tourism advertisement outdoors was connected to the propaganda symbols promoted since its constitution in the 1930s, namely to rural, historic and natural images.²⁴ Tourism was part of the campaign of "re-portuguesation of Portugal" inspired in the idea of a mythical ruralism, and it gained a dominant place in the Centennial Commemorations in 1940, with the beginning of the construction of a chain of 10 small hotels called *Pousadas*, and other tourism routes across the country that were included in the public works program.²⁵ However, the Lisbon-Cascais coastal road embodied a facet of tourism not linked to the idea of a mythical ruralism, but instead to the idea of connecting the capital to a well-known elitist *villégiature* area, accessible to well-off motorists. It was to become the most "modern" road in Portugal, constructed with top technical characteristics.

Since the beginning of the twentieth century the construction of roads for automobile tourism (one of cars' initial functions), incorporating the motorist's point of view and his expectations in the roads' layout and regulation, was discussed and encouraged in various countries. Instances were the road "corniche de l'Esterel," near Cannes, promoted by the French Touring Club or the Redwood Highway in

²¹ *Quinze anos de obras públicas: 1932-1947. Exposição e congressos de Engenharia e Arquitectura*, vol. 2 (Lisboa: Comissão Executiva da Exposição de Obras Públicas, 1949). 52.

²² João Antunes Guimarães, *Relatório do I Congresso Nacional de Turismo* (Lisboa: Sociedade Nacional de Tipografia, 1936), 11. On the "great façade of nationality" see Daniel Melo, *Salazarismo e Cultura Popular (1933-1958)* (Lisboa: Imprensa de Ciências Sociais, 2001). 250; Raphael Costa, "The 'great façade of nationality': some considerations on Portuguese tourism and the multiple meanings of *Estado Novo* Portugal in travel literature," *Journal of Tourism History* 5, 1 (2013): 50-72, 57.

²³ Costa, "The 'great façade'," 61; Sousa, *A mobilidade*, 104.

²⁴ Costa, "The 'great façade'," 56.

²⁵ Melo, *Salazarismo*, 251-53; "Decreto-lei nº 29663," in *Diário do Governo*, MOPC (1939): 573.

California.²⁶ In Portugal, the first time the classification “tourism road” was used was precisely applied to the “project of the tourism road between Lisbon and Cascais,” written by JAE engineers in 1931, and followed by the 1934 preliminary project.²⁷ In the First [Portuguese] National Congress of Tourism held in Lisbon in 1936, it was also proposed that the national roads’ classification included a new category called “tourism roads,” which should be managed by a special Department to be created in JAE, and, in general, it was considered that these roads should have better features than average national roads (better pavements, better profile and plant layouts, better roads’ surroundings through afforestation and other measures, road assistance for tourists), or even that motorways should be built for tourism, after a study to justify their necessity.²⁸ These suggestions were partly included in the planning of tourism roads, and most specifically in the coastal road in the Lisbon region, in the context of the Centennial Commemorations.

The other initial purpose of the coastal road was to structure the urbanisation growth of the region west to Lisbon, as an answer to the population growth in the area.²⁹ The planning of the so-called “Costa do Sol” (“Sun Coast,” the western surroundings of Lisbon, connecting the city to the tourist places of Estoril and Cascais) also came as a response to the need to “use the wide area of land to be opened to urbanization and tourist exploitation, including the construction of the coastal road between Lisbon and Cascais.”³⁰ In 1934, JAE was responsible for the topographical survey of the area preceding its urbanization plan and the demarcation of its roads’ network.³¹ In 1935, the name “Sun Coast” came to define the area geographically limited on the north by a

²⁶ Catherine Bertho Lavenir, *La Roue et le Stylo, Comme Nous Sommes Devenus Touristes* (Paris: Editions Odile Jacob, 1999), 207-215; Gabrielle Ruth Barnett, “Drive-By Viewing: Visual Consciousness and Forest Preservation in the Automobile Age,” *Technology and Culture* 45, 1 (2004): 30-54.

²⁷ Conselho Superior de Obras Públicas, “Parecer nº 381,” (Infraestruturas de Portugal, Fundo Documental da JAE, Arquivo da Direcção dos Serviços de Construção, 1934), 11, 52. Jorge Moreira, Paulo Marques, and Fernando Santos Lobo, “Estradas. Bases para o projecto de uma estrada de turismo entre Lisboa e Cascais,” *ACP - Órgão Oficial do Automóvel Club de Portugal* 11(1931): 33-35, 38-40, 52-55.

²⁸ José Salgado, “Estradas de turismo” (paper presented at the I Congresso Nacional de Turismo, Lisboa, 12-16 January 1936), 3, 4; *Relatório do I Congresso Nacional de Turismo*, 149-53.

²⁹ In the first three decades of the twentieth century, the Lisbon’s population increased 68,5% and most of its surrounding localities, as Sintra, Loures and Vila Franca de Xira did not increase as much. The municipalities of Cascais and Oeiras (municipal localities within the areas of the Sun Coast, following Lisbon), however, increased more than the capital, registering increases of respectively 182% and 142%. Pereira, “O processo de decisão na política urbana,” 70.

³⁰ Decreto nº 22444, in *Diário do Governo*, MOPC (1933): 625-626, 626; “Processo individual de Paulo de Serpa Pinto Marques,” (Infraestruturas de Portugal/ Fundo Documental da JAE, Arquivo dos Recursos Humanos, 1929-45).

³¹ Decreto-lei nº 24453, in *Diário do Governo*, MOPC (1934): 1664; Decreto nº 25133, in *Diário do Governo*, MOPC (1935): 382.

projected motorway, and to the south by the river Tagus and the Atlantic ocean. The Gabinete do Plano de Urbanização da Costa do Sol (Office for the Sun Coast Urban Plan) within JAE was created purposefully to supervise the urbanization of this area,³² with particular attention to issues of “embellishment and aesthetic enhancement,” together with hygiene issues.³³ Its president, chosen by minister Pacheco, was the brigadier and military engineer Manuel da Silveira e Castro, a position he accumulated with JAE’s presidency and the tourism section’s direction of the Centennial Commemorations Commission.³⁴ In 1937, the Municipalities of Lisbon, Oeiras and Cascais, all of which included areas belonging to the Sun Coast were forbidden to approve any construction or substantial modification in the area without prior approval from the Office for the Sun Coast Urban Plan.³⁵ As the plan for the Sun Coast took more than a decade to be approved (what happened finally in 1948), in the meantime partial plans were approved, including the coastal road and the motorway linking Lisbon to the National Stadium. They came to delimit respectively the southern and northern boundaries of the Sun Coast area.³⁶

JAE engineers went well beyond their competences in the construction of the coastal road, not limiting their work to technical issues restricted to the road, such as the establishment of the “Sun Coast” road network, and of the coastal road platform area, which included the lane, sidewalks or road signs, the construction of embankments, including afforestation, or overpasses and underpasses for vehicles and pedestrians. Their intervention also involved other infrastructures, including car parks and gardens, public lighting, sewage, water, gas, energy, telegraphs and telephones networks. Additionally, the JAE was responsible for managing the estate bordering the road, proceeding with expropriations, while temporarily holding in its possession various lands and buildings, and especially from 1944 onwards gradually handing these properties over to other entities, with the mediation of the Ministry of Finance.³⁷ In sum,

³² Portaria nº 8000, in *Diário do Governo*, MOPC (1935): 250, 251; Decreto nº 26762, in *Diário do Governo*, MOPC (1936): 775-778.

³³ Decreto nº 26762, 777.

³⁴ Decreto-lei nº 29087, in *Diário do Governo*, Presidência do Conselho (1938): 1439-1441; Portaria [nomeação da Comissão Executiva das Comemorações do Duplo Centenário], in *Diário do Governo*, Presidência do Conselho (1938).

³⁵ Decreto nº 27601, in *Diário do Governo*, MOPC (1937): 285, 286.

³⁶ Decreto-lei nº 37251, in *Diário do Governo*, Ministério das Obras Públicas (1948): 1715, 1716; Secretariado de Propaganda Nacional, *Cadernos do Ressurgimento Nacional. Obras Públicas* (Lisboa: Edições S.P.N., 1940), 80.

³⁷ Sousa, *A mobilidade*, 449, 450.

the JAE was one of main actors behind the Sun Coast urbanization, to the extent that the coastal road was a “primary element in the Sun Coast urbanization.”³⁸

Architects-urbanists as mobility planners. A new Lisbon for the New State

Lisbon’s riverside and the 1940 centennial commemorations

Until the first half of the nineteenth century, Lisbon developed mainly along the river, the fastest and cheapest way to connect west and east Lisbon, heavily dependent on water transportation, in view of the difficulties of land mobility. Belém was a peripheral riverside area on the west of the city of Lisbon: in 1852 it ceased to be one of Lisbon’s parishes, to be included again in the city in the end of the century.³⁹ In the last quarter of the nineteenth century, Lisbon’s area expanded to the interior and to the north. Along the river, to the south landfills were constructed in order to open a riverside avenue, Avenida 24 de Julho (first stretch opened in 1862), and solve the sanitary problems afflicting Lisbon’s riverside area.⁴⁰ The riverside avenue also helped improve land mobility. As such, one of the promoters of its extension was the Companhia Carris (Rails Company), owner of horse-drawn tramways called *Americanos* (due to their provenance), which inaugurated its first line in this avenue in November 1873.⁴¹

As the location chosen for the Exposição do Mundo Português (Portuguese World Exhibition), Belém was one of the most emblematic spaces of the Centennial Commemorations of 1940.⁴² The point of departure of the ships, which participated in the Portuguese fifteenth-century explorations, it reinforced the commemorations’

³⁸ Conselho Superior de Obras Públicas, Parecer nº 381, 5.

³⁹ Lisbon’s official limits increased substantially during the second half of the nineteenth century, namely with the creation of Estrada de Circunvalação (Circumvallation Road). The area, in square kilometres, within the official limits of Lisbon changed in this period in the following way: in the beginning of the nineteenth century, 9,47 km²; Decree of 11/9/1852, 12,1 km²; Lei of 18/7/1885, 64,9 km²; Decree of 22/7/1886, 97,2 km²; decree of 21/11/1903, 82,4 km²; see Augusto Vieira da Silva, “Os limites de Lisboa. Notícia histórica. II - Do meiado do século XIX até à actualidade (1940),” *Revista Municipal* 6 (1940): 11-23. See also Raquel Henriques da Silva, “Lisboa romântica, urbanismo e arquitectura, 1777-1874” (Ph.D. dissertation, Universidade Nova de Lisboa, 1997), 396-99. José-Augusto França, “De Pombal ao Fontismo. O Urbanismo e a Sociedade,” in *O livro de Lisboa*, ed. Irisalva Moita (Lisboa: Livros Horizonte, 1994), 363-388, 388.

⁴⁰ On the changes on urban planning in Lisbon in the late nineteenth-century and early twentieth century, in which hygienic, mobility and embellishment inscriptions played an important role see Álvaro Ferreira da Silva and M. Luísa Sousa, “The ‘Script’ of a New Urban Layout: Mobility, Environment, and Embellishment in Lisbon’s Streets (1850–1910),” *Technology and Culture* 60, 1 (2019): 65-97.

⁴¹ The horse-drawn tramways were called “*Americanos*,” which means Americans, because the first 32 wagons were bought to a New-Yorker company. António Lopes Vieira, *Os transportes públicos de Lisboa entre 1830 e 1910* (Lisboa: Imprensa Nacional -Casa da Moeda, 1982), 111; Maria Helena Lisboa, *Os engenheiros em Lisboa: urbanismo e arquitectura (1850-1930)* (Lisboa: Livros Horizonte, 2002), 124.

⁴² Elsa Peralta, “A composição de um complexo de memória: o caso de Belém, Lisboa,” in *Cidade e império: dinâmicas coloniais e reconfigurações pós-coloniais*, ed. Nuno Domingos and Elsa Peralta (Lisboa: Edições 70, 2013), 361-413, 378-381.

material and symbolic connections to the long-lasting Portuguese empire. Works in the area also included the alignment of the riverside avenue (called Avenida da Índia, with obvious imperial connotations) with the planned Lisbon-Cascais coastal road, which was to depart from Belém.⁴³ As such the tourism road connected the celebration of the “memory” of “Patriotic History,” and the “work of historical continuity of the New State” that the Centennial Commemorations promoted, to “the capacity of achievement (...) of the generation of the 1940s.”⁴⁴

French architect-urbanists and the new Lisbon

Lisbon, as “capital of the empire,” was the region of the country where the public works promoted within the Centennial Commemorations were more numerous, “fulfilling old aspirations of the empire’s capital.”⁴⁵ They were enhanced when the engineer Duarte Pacheco became the mayor of the Lisbon Municipality in early 1938, followed by his appointment as minister of Public Works,⁴⁶ reinforcing the urban impetus fostered by the legislation issued in 1934 during his first term as minister.⁴⁷ To plan the urbanization of the region to the west of Lisbon (the future “Sun Coast”), Pacheco invited foreign architects-urbanists, notably Alfred Agache, vice-president of the French Urbanists Society. He worked on the project until 1936, followed by Etienne de Gröer, who worked additionally on the urbanisation of Lisbon.⁴⁸

In 1933, Agache was hired by Duarte Pacheco to prepare an urban plan “from Terreiro do Paço until Cascais,” along the riverside and connecting the center of the old

⁴³ Matos Sequeira, “A acção da Câmara Municipal de Lisboa na Exposição do Mundo Português,” *Revista Municipal* 6 (1940): 24-26; “Projeto do prolongamento da avenida da Índia entre o Bom Sucesso e as Portas de Algés e ruas adjacentes,” (Arquivo Municipal de Lisboa, 1928-37); “Projeto de alteração dos traçados da avenida da Índia e do caminho de ferro de Cascais” (Arquivo Municipal de Lisboa, 1935-39).

⁴⁴ Quotations from a speech of minister Duarte Pacheco (already mentioned above): Pacheco, “Sessão solene.”

⁴⁵ Secretariado de Propaganda Nacional, *Cadernos*, 27.

⁴⁶ Duarte Pacheco was Minister of Public Works from 1932 to 1936. He occupied again this position in 1938 and until his death, in a car accident, in 1943. Sandra Almeida, “O país a régua e esquadro: urbanismo, arquitectura e memória na obra pública de Duarte Pacheco” (Ph.D. dissertation, Universidade de Lisboa, Faculdade de Letras, 2009), 208-32.

⁴⁷ Decreto-lei nº 24802, in *Diário do Governo*, MOPC (1934): 2137-2141.

⁴⁸ Decreto nº 22444. On Alfred Agache and on Etienne de Gröer see, respectively Almeida, “O país,” 274, 275 and 290. Agache was removed from this work in 1936, the year when he delivered the study, following the dismissal of Duarte Pacheco from the Ministry of Public Works and Communications (to which he returned in 1938). On the Sun Coast, and Lisbon’s Urbanization Plans see, respectively, Pereira, “O processo,” (pp. 84, 85 for the dismissal of Agache in 1936); Carlos Nunes Silva, “Planeamento municipal e a organização do espaço em Lisboa: 1926-1974” (M.A. dissertation, Universidade de Lisboa, Faculdade de Letras, 1986).

downtown Lisbon to its western region.⁴⁹ Agache called this Western area the “new Lisbon”: “a new Lisbon, facing the river, in love with the sea, as we all dreamt of and which Salazar will soon turn into a wonderful reality.”⁵⁰ It was Agache who suggested Etienne de Gröer, with whom he had worked in the Rio de Janeiro Urban Plan (1928-1930), to participate in the Sun Coast Urban Plan. They integrated Duarte Pacheco’s plans from the 1930s onwards and their influence was felt until well into the second half of the twentieth century.⁵¹ De Gröer taught at the Institut d’Urbanisme (Institute of Urbanism) of the University of Paris, in which some architects-urbanists who later worked on Lisbon’s urban plans were trained.⁵² His expertise as an urban planner in Portugal was materialized in the authorship of the lengthy article “Introdução ao urbanismo (“Introduction to urbanism”), published in the first issue of the official publication of the Direcção Geral dos Serviços de Urbanismo (General Direction for Urbanism Services), created in 1944 to coordinate urban plans in Portugal and consolidate the preceding planning actions.⁵³

In spite of the anti-urbanization rhetoric of the New State, planning the new Lisbon embodied central aspects of the regime’s agenda: to limit high population density in the city and to reconstruct the country’s image guided by its imperial dimension.⁵⁴

Architects-urbanists Agache and De Gröer followed the lines of the garden city concept, which was created by Ebenezer Howard at the turn of the twentieth century to answer to the problems of urban population rise due to migration from rural areas. This

⁴⁹ Quote from an interview to Duarte Pacheco in 1933, cited in Paula André, “As cidades da cidade. Lisboa na primeira metade do século XX: nova Lisboa (1936) e Lisboa nova (1948),” *Urbana* 7, 10 (2015): 89-111, 99.

⁵⁰ Agache interview (1936) cited in André, “As cidades da cidade,” 100.

⁵¹ Paula André, “Portugal de fora para dentro: Paul Descamps, Donat A. Agache, Étienne de Groer,” in *Arte & discursos*, ed. Margarida Acciaiuoli and Maria João Castro (Lisboa: Faculdade de Ciências Sociais e Humanas. Universidade Nova de Lisboa, 2014), 255-268, 255; Vasco Brito and Catarina Teles Ferreira Camarinhas, “Elementos para o estudo do Plano de Urbanização da cidade de Lisboa (1938),” *Cadernos do Arquivo Municipal de Lisboa* (2007): 163-189, 183.

⁵² The first Portuguese architect to study at the Institute of Urbanism, setting a “a training pattern for Portuguese town planners at the Institute (..) until the 1970s” was João Guilherme Faria da Costa, who became architect of Lisbon’s municipality and worked with his teacher, De Gröer, in the 1948 Lisbon’s urban plan. Catarina Teles Ferreira Camarinhas, “The Construction of Modern Scientific Urban Planning: Lisbon under French *Urbanisme* Influence (1904-1967),” *Planning Theory & Practice* 12, 1 (2011): 11-31, 16.

⁵³ Etienne De Gröer, “Introdução ao urbanismo,” *Boletim da Direcção-Geral dos Serviços de Urbanização* 1(1945-1946): 17-86; Decreto-lei nº 34337, in *Diário do Governo*, MOPC (1944): 1327, 1328. This General Direction was responsible for coordinating both urban plans and also “rural improvements,” which had been before 1945 under the JAE’s assignments. Sousa, *A mobilidade*, 384-389.

⁵⁴ Camarinhas, “The Construction of Modern Scientific Urban Planning,” 12.

urban plan was part of a social reform through cooperative organisation, land reform, and self-sufficiency. It limited city's population to 32000 inhabitants, in such a way that a network of garden cities interconnected through greenbelts was created.⁵⁵ In 1911, in a congress on "Social Hygiene," Agache presented the English garden-city model as a concrete answer to urban problems of physical and social hygiene, namely regarding the working class housing⁵⁶ (see chapter 3 in this volume). Both Agache and De Groër considered Howard's garden cities' concept to be the basis of "modern urbanism," which had the purpose to "reorganise the citizens' existence, giving them the best possible living conditions," through the planning of salubrious places and of the "beautiful" and decongested city, which meant imposing "order" to the city and its surroundings.⁵⁷

Agache and De Groër also defended the limitation of urban population density. De Groër, for instance, advocated single-family housing neighbourhoods instead of housing in multi-storey buildings.⁵⁸ These options were in line with the values of the catholic family, and were in tune with Salazar's thought. This was not a coincidence: both Agache and Salazar were acquainted with Frédéric Le Play's work, whose notion of the family as the cement of society was translated into French urban reform, which in turn influenced Pacheco's 1930s urban policies.⁵⁹ As the architect and urban historian Paula André states:

⁵⁵ Michel Geertse, "Cross-Border Country Planning Dialogue in Interwar Europe," *SAGE Open* 5, 3 (2015): 1-12, 3-5.

⁵⁶ It was the congress of the "Alliance d'hygiène sociale," held in Roubaix (France). Catherine Bruant, "Donat Alfred Agache (1875-1959) - L'architecte et le sociologue," *Les Études sociales* 122(1994): 42-X. Agache was also interested in the concept of garden cities as they considered planning cities from scratch, as he did in his project for Yass Canberra (Australia). Vincent Berdoulay and Olivier Soubeyran, "Agache ou le milieu comme support écologique," in *L'écologie urbaine et l'urbanisme* (Paris: La Découverte, 2002), 177-200, 191, 191. I thank Celia Miralles Buil for giving me the access to this article.

⁵⁷ De Groër, "Introdução ao urbanismo," 24 (first quote); 45 (second and third quotes). On Agache see Bruant, "Donat Alfred Agache," 54.

⁵⁸ He defended the limitation of population within a city, and the construction of horizontal property (and not vertical) as a condition for the good health of the population, but also as a preventive measure towards aerial bombing – the houses should be separated, sprawled. De Groër, "Introdução ao urbanismo," 28, 39, 40. Etienne De Groër, "Plano Director de Lisboa. Modo actual de construir" (Gabinete de Estudos Olisiponenses, 1948), IIª parte, Vol. 2, 2 - Densidades de população.

⁵⁹ André, "Portugal de fora para dentro," 255-60; Paula André, Teresa Marat-Mendes, and Paulo Rodrigues, "Alfred-Donat Agache Urban Proposal for Costa do Sol. From the Territory to the City" (paper presented at the 15th International Planning History Society Conference, São Paulo, 2012), 3, 4; Bruant, "Donat Alfred Agache," 25, 32; Berdoulay and Soubeyran, "Agache ou le milieu," 177. See also Frederico Ágoas, "Narrativas em Perspetiva sobre a História da Sociologia em Portugal," *Análise Social* 206, 68 (2013): 221-56.

Le Play's influence on Salazar's ideology and political thinking is revealed in Salazar's articulation between family, housing and private property. The family was one of the pillars of the New State, and this was translated into the regime's housing policy, in which both housing typology and its property regime were justified on ideological grounds.⁶⁰

Agache's and De Groër's planning ideas were linked with spatial distribution. Agache considered urbanism as a positivist and applied science – “applied sociology.”⁶¹ A central concept of Agache's urbanism was the use of “zoning” (a garden city concept) as the way to plan this “positive” evolution of the city, by proposing a particular spatial distribution throughout the territory where social activities took place.⁶² In promoting zoning, De Groër followed closely previous garden cities' designs, such as Ebenezer Howard's, in the definition of types of zone: industrial, commercial and civic, residential, free spaces and rural – all of each with its specific regulation.⁶³ Applying these planning principles turned city's inhabitants into “honest men and good Christians.”⁶⁴ According to De Groër, zoning was the “basis of urbanism” and was fundamental to create quality, healthy working-class neighbourhoods, and to curb real estate speculation.⁶⁵ To connect them through space, urban (and regional) planning implied urban and suburban mobilities, which were influenced by another “actor” that was becoming more prominent on the European scene: the motor vehicle.

During the interwar period, in the congresses of the International Federation for Housing and Town Planning (IFHTP),⁶⁶ various planning options were under discussion: one endorsed the concept of “pure” garden cities, promoted by the British; the other its appropriation in continental Europe, accompanied by the growing concern for regional planning and suburbanization (caused partly by the growing use of motor vehicles).⁶⁷ Urban planner and historian Catarina Camarinhas argues that it was via the French School that these ideas reached Portugal, namely through De Groër and the

⁶⁰ André, “Portugal de fora para dentro,” 257.

⁶¹ Berdoulay and Soubeyran, “Agache ou le milieu,” 178.

⁶² Bruant, “Donat Alfred Agache,” 26, 52.

⁶³ De Groër, “Introdução ao urbanismo,” 24, 25, 34.

⁶⁴ De Groër, “Introdução ao urbanismo,” 74.

⁶⁵ De Groër, “Plano Director de Lisboa,” IIª parte, B- Zonamento, p. 7.

⁶⁶ It was co-founded by Howard in 1913 as the International Garden Cities and Town Planning Association, to promote the garden city concept.

⁶⁷ Geertse, “Cross-Border Country Planning,” 3-5.

concept of “garden-district,” “a compromise between the initial ideal of the garden city and the reality of suburban expansion.”⁶⁸

Planners wanted to tame the cities’ expansion into the countryside in an orderly way via infrastructures and settlements.⁶⁹ But there was an inherent tension between infrastructures and spatial planning: If in Howard’s concept of garden city mobility was secured via trams and public transit, in the interwar period these means of transport were being replaced, in terms of planning, by vehicular mobility (namely private automobility). In the IFHTP interwar congresses this change was addressed either as a problem or as an opportunity, both to the planning of old urban downtowns or to suburbanisation.⁷⁰

There was also an on-going discussion on the type of roads to be built for motor vehicles. The debate on automobile-only roads (motorways) was coeval in Europe: the construction of the first national motorways took place in Fascist Italy in the 1920s, and in Nazi Germany and in the Netherlands in the 1930s.⁷¹ They were inspired in urban American parkways projected by Robert Moses, which provided “an enduring model for the twentieth century highways.”⁷² Parkway also supported other economic activities and other logics of spatial planning, including leisure ones. For De Gröer parkways were both leisure places but they also became thoroughfares (and influenced, also, suburban motorways).

Intermingling transport and urban expertise

Agache considered roads’ planning as a fundamental part of the urbanist’s work. The urbanist intervened in the “organic” city as a therapist who “heals [the “sick” city],”

⁶⁸ Camarinhas, “The Construction of Modern Scientific Urban Planning,” 22-24, 28.

⁶⁹ Geertse, “Cross-Border Country Planning,” 7.

⁷⁰ Ruth Oldenziel, M. Luísa Sousa, and Pieter van Wesemael, “Designing (Un)Sustainable Urban Mobility from Transnational Settings, 1850–Present,” in *A U-Turn to the Future. Sustainable Urban Mobility since 1850*, ed. Martin Emanuel, Frank Schipper, and Ruth Oldenziel (New York: Berghahn Books, 2020), 29-66; Geertse, “Cross-Border Country Planning”; Renzo Riboldazzi, “Getting to the Root of the Crisis of Urbanity: The Debate on Urban Open Spaces in the IFHTP Congresses between the two Wars,” *Planum - The Journal of Urbanism* 24 (2012): 1-18, 6.

⁷¹ See, for instance, Massimo Moraglio, “A rough modernization: landscapes and highways in twentieth-century Italy,” in *The world beyond the windshield: roads and landscapes in the United States and Europe*, ed. Christof Mauch and Thomas Zeller (Athens: Ohio University Press, 2008), 108-124; Zeller, *Driving Germany*; Gijs Mom, “Roads without Rails. European Highway-Network Building and the Desire for Long-Range Motorized Mobility,” *Technology and Culture* 46, 4 (2005): 745-772.

⁷² Clay McShane, *Down the Asphalt Path: American Cities and the Coming of the Automobile* (New York: Columbia University Press, 1994), 223.

paralleling cities to living bodies.⁷³ According to this organic metaphor (not original in urbanism), city's sickness occurred whenever one of its vital functions was not working properly: circulation (through roads), digestion (through networks), breathing (through the free spaces), and physiognomy (through the layout of the buildings and the general composition).⁷⁴ He also defended that the urbanist had to think broadly, going beyond his immediate problem, and starting by doing a general regional planning draft including the great communication axis between municipalities.⁷⁵ This idea was applied in Lisbon. When hired in 1933, the decree issued by Pacheco's Ministry of Public Works and Communications defined Agache's intervention as follows:

The expansion of our urban centres has taken place almost always without the prior establishment of a superior criterion guiding it, subordinating itself only to the needs of opportunity, with obvious disadvantage for the collective interest, which is poorly served in aesthetics, hygiene and economy.

(...) the Government considers that the plan for the use of the large land area that will be open to urbanization and tourist exploitation by the construction of the coastal road between Lisbon and Cascais should be established from the outset, because field studies for this road are underway. It is time that the experienced hand of an already renowned urbanist in this difficult kind of works draws (...) the outline of all the elements of utilization and valorisation of this magnificent coastal strip that will be served by our first tourist road, so that one can get the most out of its exceptional conditions.

(...) the Government is authorized by the Ministry of Public Works and Communications to assign to (...) the French architect urbanist Alfredo [sic] Agache, vice-president of the French Urbanists Society, to carry out the preliminary study of the urbanization of the area from Lisbon to Estoril and Cascais.⁷⁶

In 1936 Agache commented on the agreement by the minister Pacheco on taking a regional planning perspective:

⁷³ Bruant, "Donat Alfred Agache," 26, 49, 51; Berdoulay and Soubeyran, "Agache ou le milieu," 184.

⁷⁴ Bruant, "Donat Alfred Agache," 51, 55; Berdoulay and Soubeyran, "Agache ou le milieu," 184, 185, 195.

⁷⁵ Donat Alfred Agache, "L'aménagement de la Costa do Sol (Portugal)," *Urbanisme : revue mensuelle de l'urbanisme français* 43(1936): 146-150, 146; Bruant, "Donat Alfred Agache," 59, 60; Berdoulay and Soubeyran, "Agache ou le milieu," 190.

⁷⁶ Decreto n° 22444.

In fact, the first intention of the government was to improve the few beaches on what is called the “Costa do Sol” (the Sun Coast), by developing the old coastal road, but the minister followed us very well and even encouraged us when, following an introductory report, we demonstrated to him how important it was for the future of the country to examine the problem from a broader angle.⁷⁷

In this broader context, Agache deeply emphasised the need to think traffic and routes, concerning not only the region to the west of Lisbon, which he considered to be the most important “extension” of the city, but also other directions of urban expansion and their exit routes. It should be done by: 1) “determin[ing] the character of the functional centers of Lisbon and direct their traffic to the main exits,” 2) “connect[ing] the capital with the hinterland and overseas” and 3) making a road plan, which he considered a “key element”: “With particular regard to the western region of Lisbon, establish a framework of routes allowing rapid traffic between the capital and the various satellite agglomerations (Queluz, Sintra, etc., and in particular the existing beaches or those under formation).”⁷⁸ He also mentioned the need to construct a motorway that would connect the center of Lisbon to Estoril (it would become the marker for the northern frontier of the Sun Coast area; only the 8 km stretch from Lisbon to the National Stadium was built in the 1940s) and the construction of a sports’ park, which became the National Stadium, and the place where the motorway met the coastal road.

[PLACE FIGURE 1 HERE]

Figure 1: Road plan for the Sun Coast according to Agache (1936)

Source: Donat Alfred Agache, “L'aménagement de la Costa do Sol (Portugal),” *Urbanisme : revue mensuelle de l'urbanisme français* 43 (Mars-Avril 1936): 146-150, here p. 148.

De Gröer later materialised the ideas set by Agache.⁷⁹ He also defended the importance of integrating planning at different geographical scales, urban, regional, and national, particularly in an epoch that he called of command economy, possibly an

⁷⁷ Agache, “L'aménagement,” 147. See also André, Marat-Mendes, and Rodrigues, “Alfred-Donat Agache Urban Proposal for Costa do Sol. From the Territory to the City,” 4.

⁷⁸ Agache, “L'aménagement,” 148.

⁷⁹ André, “Portugal de fora para dentro,” 267.

euphemism for the fact that he was working for a dictatorship, which was not uncommon for other experts in interwar Europe, who abided by the coeval technocratic internationalism that considered science and technology to be apolitical.⁸⁰ For De Gröer, planning a city should go in tandem with planning its expansion, “to prepare enough extensions that will allow it [the city] to develop in harmony.”⁸¹ The residential areas in the extensions of a city were divided in three types, according to the social class of their dwellers, namely working class, middle class and wealthy class, and involving different population densities: population density in areas for the wealthier classes should be more than one third lower than those for the working class.⁸² De Gröer assumed a social zoning of the urban space, based on social class, which was accompanied by a hierarchy of architectural quality and typologies.⁸³ Planning the Sun Coast in such a way that reinforced its elitist pedigree was therefore perfectly congruent with this line of thought.

Urban sprawl was a consequence of the type of planning promoted by De Gröer. He was against the compact city, and in favour of a decongested city, with a limited population density.⁸⁴ This paralleled the relevance he gave, as Agache, to mobility routes and future means of transports. In the future, De Gröer imagined that transports would be so easy and direct, that they would make cities useless:

If we admit, for example, that, in the future, transports will become much faster and cheaper than today, one could think that in general cities will not be necessary. The concentration of all urban activities and habitations in the same place would become absolutely useless, and one could live sprawled throughout the countryside and quickly move to other people's place, or from home to office, or to the factory.⁸⁵

As cities were still part of the reality he prescribed mobility solutions within the city and in connecting different city's extensions. He related population density within the city

⁸⁰ De Groër, "Introdução ao urbanismo," 27. On technocratic internationalism see Johan Schot and Vincent Lagendijk, "Technocratic Internationalism in the Interwar Years: Building Europe on Motorways and Electricity Networks," *Journal of Modern European History* 6, 2 (2008): 196-217; Martin Kohlrausch and Helmuth Trischler, *Building Europe on Expertise: Innovators, Organizers, Networkers* (Basingstoke: Palgrave Macmillan, 2014).

⁸¹ De Groër, "Introdução ao urbanismo," 47.

⁸² De Groër, "Introdução ao urbanismo," 40, 54.

⁸³ Fagundes, "Obras Públicas," 372, 77.

⁸⁴ De Groër, "Plano Director de Lisboa," IIª parte, Vol. 2, 2 - Densidades de população.

⁸⁵ De Groër, "Introdução ao urbanismo," 28.

with the street's transport capacity, promoting the construction of ring roads surrounding the urban centres for crossing traffic (cars), together with wide and expensive exit routes (11 to 12m wide, with four lanes).⁸⁶ These lanes were thought especially for motor vehicles' traffic: the 3m lanes were planned for high speed traffic, according to international standards. These standards would be implemented for the first time in Portugal with the construction of the Lisbon-Cascais coastal road and the motorway stretch built from Lisbon's centre to the National Stadium. Furthermore, De Gröer considered motorbuses to be more "advantageous" than trams, and should replace them.⁸⁷ The first six motorbuses were introduced in Lisbon for the Portuguese World Exhibition in 1940.⁸⁸ These high traffic routes were built after defining activities' zoning and having in mind important points of reference, such as public buildings hosting public administration and services, commercial areas, or parks.⁸⁹

Some of these thoroughfares could be framed as "parkways" – a term borrowed from the "Americans" – with green areas framing the traffic lanes, connecting the free/open spaces in the city, and allowing for circulation between them.⁹⁰ But parkways could themselves, according to De Gröer, be considered open spaces.⁹¹ By having the possibility of being framed both as thoroughfares or open spaces, parkways in De Gröer's formulation carried the tensions and contradictions inherent to his urban vision, regarding the wellbeing of dwellers and mobility planning. On the one hand, he deemed essential the existence of free/open/green spaces (the three terms were used in an interchangeable way by De Gröer), which were considered the "lungs of the city,"⁹² and included not only public parks and gardens, but also sports facilities, and the rural area which acted as the green belt around the city where, in general, it was not allowed to build in order to define city limits.⁹³ These green spaces were considered an "absolute need": "The air! The sun! These are the two elements of God that should not be lacking to anyone and from which our artificial civilization deprived the inhabitants of the

⁸⁶ De Groër, "Introdução ao urbanismo," 49, 55, 66.

⁸⁷ De Groër, "Introdução ao urbanismo," 66.

⁸⁸ Lisbon introduced motorbuses as a form of urban collective transport later than other European countries. For a periodisation proposal see Colin Divall and Barbara Schmucki, "Introduction: Technology, (Sub)urban Development and the Social Construction of Urban Transport," in *Suburbanizing the masses: public transport and urban development in historical perspective*, ed. Colin Divall and Winstan Bond (Aldershot: Ashgate, 2003), 1-19.

⁸⁹ De Groër, "Introdução ao urbanismo," 55, 61.

⁹⁰ De Groër, "Introdução ao urbanismo," 69.

⁹¹ De Groër, "Plano Director de Lisboa," IIª parte, Vol. 2, F - Distribuição dos espaços livres, p. 86.

⁹² De Groër, "Introdução ao urbanismo," 42, 69.

⁹³ De Groër, "Introdução ao urbanismo," 43.

cities. They will have them again thanks to us. Our cities will now be clear and cheerful.”⁹⁴ On the other hand, De Groër also considered essential the construction of high traffic routes, for motor vehicles, which he thought was the best transport option between the city (namely Lisbon) and its extensions.⁹⁵ However, these thoroughfares could not be considered open spaces, because the “constant circulation of cars and the smell of gasoline” would not allow people to rest.⁹⁶

De Groër applied these principles both to the planning of the Sun Coast and, from 1938 to 1948, to the planning of Lisbon.⁹⁷ Using survey data collected by the engineer António Emídio Abrantes in 1938,⁹⁸ De Groër prepared the Lisbon Urban Plan (concluded in 1948), in which he criticised what he considered to be the “denial of urbanism.”⁹⁹ De Groër proposed zoning as the tool for giving urban “order” to Lisbon and a new sprawl structure, in which the planning of road mobility was structural, including ring roads and exit thoroughfares, such as the connection between the riverside avenue in Belém (Avenida da Índia) and the Lisbon-Cascais coastal road. Lisbon’s urban plan, completed by De Groër and approved by Lisbon’s Municipality in 1948 (although not approved by the government), built on his first studies in the late 1930s, and emphasized main communication axes, notably a network of radial and peripheral roads, which included the Lisbon-National Stadium motorway and the coastal road.¹⁰⁰

[PLACE FIGURE 2 HERE]

Figure 2: Main communication axes of the Lisbon 1948 urban plan

Source: XXXX

The 1948 Lisbon urban plan changed the pattern of urban expansion to the north characteristic of late nineteenth century Lisbon to a radial-centric expansion, encompassing the western areas (including the area of Belém).¹⁰¹ It was based on the

⁹⁴ De Groër, “Introdução ao urbanismo,” 70.

⁹⁵ De Groër, “Plano Director de Lisboa,” IIª parte, Vol. 2, 2 - Densidades de população, p. 3.

⁹⁶ De Groër, “Plano Director de Lisboa,” Iª parte, B- Espaços livres, p. 72.

⁹⁷ De Groër, “Plano Director de Lisboa.”

⁹⁸ António Emídio Abrantes and Carlos Martins Jorge, “Elementos para o estudo do plano de urbanização da cidade de Lisboa [Exemplar das peças escritas corrigidas por E. de Groër]” (Arquivo Municipal de Lisboa, 1938).

⁹⁹ Brito and Camarinhas, “Elementos.”

¹⁰⁰ Almeida, “O país,” 293; Fagundes, “Obras Públicas,” 374, 75.

¹⁰¹ Brito and Camarinhas, “Elementos,” 185.

prediction that Lisbon's population should not overcome 10% of the country's population, which was estimated to attain 10 million within the next 20 years.¹⁰²

[PLACE 3 HERE]

Figure 3: Lisbon's imagined population growth in 20 years and its extensions (1948).

Source: "Plano Director de Lisboa. Modo actual de construir," (Gabinete de Estudos Oisiponenses, 1948), Iª parte, C- Lisboa e a sua região, pp. 81, 82.

Based on this regional planning reasoning, both Agache and De Groër put a great emphasis on planning roads for Lisbon and its extensions, acting as mobility planning experts. Furthermore, their approach was also normative. Agache's approach to urban planning can be considered normative, in spite of his promotion of urbanism as an empiric science. He saw the city fundamentally from an economic perspective, dominating the social dimension that he, nonetheless, intended to include.¹⁰³ De Groër's approach can also be considered normative, particularly when he took for granted a socially stratified zoning. He also took for granted automobility as the dominant and desired mobility mode (particularly in the future).¹⁰⁴ In the zoning included in the 1948 Lisbon urban plan, he presented a list with each zone's area in hectares, in which he forgot to include the area occupied by the road infrastructure (with the exception of the motorway), which occupied considerable space – this omission is telling of its reification.¹⁰⁵

Concluding remarks

The construction of the coastal road Lisbon-Cascais and the subsequent planning of the Sun Coast and of Lisbon's expansion shows that planning at different scales was covered simultaneously by distinct expert domains. The coordination of all works was political and, in particular, driven by the minister Duarte Pacheco. Additionally, both road engineers and architects-urbanists crossed their expertise on urban and mobility

¹⁰² De Groër, "Plano Director de Lisboa," Iª parte, C- Lisboa e a sua região, p. 81, 82, IIª parte, Vol. 1, A - Limitação do desenvolvimento urbano e estabelecimento duma cintura rural de protecção, p. 2.

¹⁰³ Berdoulay and Soubeyran, "Agache ou le milieu," 194.

¹⁰⁴ See, for instance, De Groër, "Plano Director de Lisboa," IIª parte, Vol. 3, 1 - Memórias Explicativas que acompanharam Desenhos de Detalhe.

¹⁰⁵ De Groër, "Plano Director de Lisboa," IIª parte, Vol. 2, G - Distribuição da área geral abrangida pelo plano director.

planning. In 1931, the JAE started by doing a preliminary project for the coastal road between Lisbon and Cascais, followed by an extended topographical survey (1934) of the area between Algés and Cascais, and later held an important role in the implementation of the Sun Coast Urban Plan (the brigadier Manuel Silveira e Castro was both president of the JAE's and of the Office for the Sun Coast Urban Plan) and in the urbanisation of the area surrounding the coastal road.

The decision to open the first touristic road in Portugal – the coastal road Lisbon-Cascais – led the minister Duarte Pacheco to invite the architect-urbanist Agache to draw an urbanization plan for the area between Lisbon and Cascais in 1933, which later was expanded to the so called Sun Coast area. By following Agache's suggestion to study the problem from a "broader angle," that is by thinking regionally, Pacheco framed the Sun Coast area as one of the extensions of the new urban plan for Lisbon, which was to be studied by one of Agache's co-workers, Etienne de Gröer after 1938. Both Agache and De Gröer considered road planning a key feature of their planning ideas for Lisbon and its extensions. Particularly important were the high traffic routes, which were thought as thoroughfares for (future) motor vehicles' mobility.

For whom were the coastal road and the new Lisbon built? The construction of the coastal road, together with the motorway from Lisbon to the National Stadium, meant an exceptional investment in the period of the Second World War, in terms of technical, financial, legislative and material resources, when considering those in existence in the country, including the ones available for all the other national roads that the JAE was responsible for. This investment was concentrated in an already privileged area of Lisbon surroundings, creating more regional asymmetries and helping to build an elitist automobile tourism, while paving the way to future automobilities. As to urban planning, both architects-urbanists, while prescribing "cures" for the sicknesses of the city, prescribed also future uses for the city, particularly clear in their visions of the spatial distribution and mobile axes. Agache's and De Gröer's normative prescriptions encompassed future social uses translated into the layout of the city. Private automobility was already inscribed in the plan, privileging at the time an elite (because of the low motorisation rates), and later contributing to other forms of mobility injustice regarding an accessible and clean city (with no air or noise pollution), which they intended to foster and preserve.

This normative discourse reflects a “strong utopian tradition among planning theorists,”¹⁰⁶ of which, inspired by the garden city concept, Agache’s and De Gröer’s visions for the future of the city and its mobility’s infrastructures are part of. Artefacts, as mobility’s infrastructures, do have politics.

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